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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/904,248	07/11/2001	Zhi Hong	330.074-US1	2104

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EXAMINER

WESSENDORF, TERESA D

ART UNIT PAPER NUMBER

1639

DATE MAILED: 01/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/904,248

Applicant(s)

HONG ET AL.

Examiner

T. D. Wessendorf

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Group III (claims 21-26), species amines in Paper No. 7 is acknowledged.

Status of Claims

Claims 1-20 have been canceled with the instant RESPONSE, 12/6/02.

Claims 21-26 are under consideration.

Specification

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors (typographical, grammatical and idiomatic). Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112, second paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 21-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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The term "providing" is unclear as to how nucleosides are provided. The specification, like the claims, recites a "provided" nucleosides but does not indicate said step of providing. This step is not a positive, manipulative process steps. It is suggested that applicants recite for preparing.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lam et al (5,858,670) or Carver (99/64378) in view of Gravert et al (Chemical Reviews, Ref. J).

Lam discloses, col. 5, line 22 up to col.6, lines 45, a method of generating a bio-oligomer library by synthesizing bio-oligomers of random monomer subunit sequences comprising repeating the step of: (i) providing at least two aliquots of a solid phase support for the random subunit sequences; ii) separately introducing a set of subunits to the aliquots of the

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solid phase support; (iii) completely coupling the subunits to substantially all the sites of the solid phase support to form a solid phase support/new subunit combination; (iv) assessing the completeness of coupling and, if necessary, forcing the reaction to completeness; (v) thoroughly mixing the aliquots of the solid phase support/new subunit combination; and, after repeating steps (i)-(v) the desired number of times, a final step of (vi) removing the protecting groups such that bio-oligomer remains linked to the solid phase support. The term "random monomer subunit sequences" refers to sequences in which any monomer subunit may proceed or follow any other monomer subunit. The monomer subunit may be a nucleoside; the nucleoside may be ribonucleic acid or it may be deoxyribonucleic acid.

Carver discloses, page 11, lines 13-20, a method of synthesizing a library of nucleosides by coupling a monomer unit to a solid support, altering the monomer unit then coupling another monomer units. Carver continues on lines 29-38, that a combinatorial library where the reactive group on the nucleoside monomer unit is an amine is prepared using an acetonide or other suitable protecting groups to temporarily protect chemically active sites. Each of Lam or Carver does not disclose an amine reagent, as recited. However, Gravert discloses, page 501, paragraph IV synthesis of oligonucleotide on soluble polymers

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using a reagent as hexamethylphosphoramide. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use as a coupling reagent, amine, in the library nucleoside synthesis of Lam or Carver since amine agent is conventionally employed in the synthesis of nucleoside as taught by Gravert. The use of a particular coupling agent would be within the ordinary skill in the art depending upon the monomer or nucleoside units that are being synthesized. This is evident from the numerous prior art cited by Gravert for the particular synthesis of oligonucleotide in soluble polymers. [The fact is, synthesis of oligomers such as nucleosides has advanced markedly that automated synthesis is now employed. To synthesize a library of nucleosides, rather than an non-library nucleoside, would motivate one skill in the art since a library provides a tool for promising lead compounds useful as drugs].

No claims are allowed.

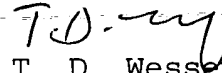
Any inquiry concerning this communication or earlier communications from the examiner should be directed to T. D. Wessendorf whose telephone number is (703) 308-3967. The examiner can normally be reached on Flexitime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be

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reached on (703) 306-3217. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7924 for regular communications and (703) 308-7924 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.


T. D. Wessendorf
Primary Examiner
Art Unit 1639

tdw
January 13, 2003